

## Curriculum Vitae

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### Education

1987 – 1991 Ph.D. in Applied Physics at the Center for Polymer Studies and the Department of Physics, Boston University.

### Professional Experience

1991 – 1992 Postdoctoral Fellow, Laboratoire Léon Brillouin, Saclay, France.  
 1992 – 1993 Postdoctoral Fellow, Collège de France, Paris, France.  
 1994 – 1995 Temporary Faculty, Université D'Evry, France.  
 1995 – 1998 Postdoctoral Fellow, European Synchrotron Radiation Facility, France.  
 1998 – 2000 Instrument Scientist, Intense Pulsed Neutron Source, Argonne National Laboratory.  
 2000 – 2008 Physicist, Intense Pulsed Neutron Source, Argonne National Laboratory.  
 2008 – 2010 Biophysicist, Biosciences Division, Argonne National Laboratory.  
 2010 – 2011 Physicist, Materials Science Division, Argonne National Laboratory.  
 2012 – summer Visiting Scientist at FRM-II, Technical University of Munich, Germany.  
 2012 – 2013 User Outreach Scientist, XSD Division, Argonne National Laboratory.  
 2013 – present Resident Associate, Argonne National Laboratory and  
 Adjunct Professor at physics Dept. at Northern Illinois University, USA.  
 2014 – present Visiting Scientist at Physics Department, Boston University, Boston, USA.  
 2015 April – Nov. 2015 Visiting Professor at LSU for the Louisiana Consortium for Neutron Scattering (LaCNS) USA.  
 2015 Nov. to present Visiting Scientist in the Coherent X-ray Scattering group of G. Gruebel at DESY Hamburg, Germany.

### Publications – Peer Reviewed

- 1 J. Lal and R. Bansil, “Light Scattering Study of Kinetics of Spinodal Decomposition in a Polymer Solution”, *Macromolecules*, **24**, 290, 1991.
- 2 R. Bansil, J. Lal, and B. Carvalho, “Effects of Gelation on Spinodal Decomposition Kinetics in Gelatin”, *Polymer*, **33**(14), 2961, 1992.
- 3 J. Lal and R. Bansil, “Effects of Gelation on Morphology of Spinodal Decomposition and Viscous Fingering”, *Physica A*, **186**, 88, 1992.
- 4 M.-C. Bellissent-Funel, J. Lal, K. Bradley, and S.H. Chen, “Neutron Structure Factors of In-Vivo Deuterated Protein C-Phycocyanin”, *Biophysics Journal*, **64**, 1542, 1993.
- 5 M.-C. Bellissent-Funel, J. Lal, and L. Bosio, “Structural Study of Water Confined in Porous Glass by Neutron Scattering”, *Journal of Chemical Physics. Phys.* **98**, 4246, 1993.
- 6 M.-C. Bellissent-Funel, K. Bradley, J. Lal, S. H. Chen and J. Teixeira, “Slow Dynamics of Water in Confined Space”, *Physica A* **201**, 277, 1993.
- 7 J. Lal, J. Bastide, R. Bansil, and F. Boué, “The Behavior of Free Chains of Polystyrene in a Network of Methylmethacrylate in Toluene”, *Macromolecules* **26**, 6092, 1993.
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- 9 J. Lal and J. M. di Meglio, “The Formation of Soap Films From Insoluble Fatty Acids”, *Journal of Colloids*

- and Interface Science* **164**, 506, 1994.
- 10 Lal and L. Auvray, "Perturbations of microemulsion droplets by confinement and adsorption of polymer", *Journal. de Physique II, France* **4**, 2119, 1994.
  - 11 J. Lal, S. K. Sinha and L. Auvray "Structure of polymer chains confined in vycor" *Journal de Physique II* **7**(11), 1597, 1997.
  - 12 C. Fradin, A. Braslau, D. Luzet, M. Alba, C. Gourier, J. Daillant, G. Gruebel, G. Vignaud, J. F. Legrand, J. Lal, J. M. Petit and F. Rieutord, "Investigating liquid surfaces down to the nanometer scale using grazing incidence x-ray scattering", *Physica B* **248**, 310-315, 1998.
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  - 14 J. Lal and L. Auvray, "Interaction of polymer with clays, *Journal of Applied Crystallography* **33**, 673-676, 2000.
  - 15 R. Bhatia, W. B. Russel, and J. Lal, "Small-angle neutron scattering study of associative triblocks in microemulsion solutions", *Journal of Applied Crystallography* **33**, 614-617, 2000.
  - 16 J. Lal and L. Auvray, "Interaction of polymer with discotic clay particles", *Molecular Crystals and Liquid Crystals* **356**, 503, 2001.
  - 17 J. Lal, D. Abernathy, L. Auvray, O. Diat, and G. Gruebel, "Dynamics and correlations in magnetic colloidal systems studied by x-ray photon correlation spectroscopy", *European Physical Journal E-Soft Matter* **4**, 263-271, 2001.
  - 18 B.-S. Yang, J. Lal, P. Richetti, C. M. Marques, W. B. Russel, and R. K. Prud'homme, "Interaction of hydrophobically modified polymers and surfactant lamellar phase", *Langmuir* **17**(19), 5834-5841, 2001.
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  - 20 B.-S. Yang, J. Lal, J. Kohn, J. S. Huang, W. B. Russel, and R. K. Prud'homme, "Interaction of Surfactant Lamellar Phase and a Strictly Alternating Comblike Amphiphilic Polymer Based on PEG", *Langmuir* **17**(21), 6692-6698, 2001.
  - 21 D. Wang, J. Lal, D. Moses, G. C. Bazan, and A. J. Heeger, "Small Angle Neutron Scattering (SANS) Studies of a Conjugated Polyelectrolyte in Aqueous solution", *Chemical Physics Letters* **348** (5-6), 411-415, 2001.
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  - 23 M. R. Gittings, L. Cipelletti, V. Trappe, D. A. Weitz, M. In and J. Lal, "The effect of solvent and ions on the structure and rheological properties of gaur solutions, *Journal of Physical Chemistry A* **105**(40), 9310-9315, 2001.
  - 24 B.-S. Yang, J. Lal, M. Mihailescu, M. Monkenbusch, D. Richter, J. S. Huang, W. B. Russel, and R. K. Prud'homme, "Neutron Spin-Echo Study of Dynamics of Hydrophobically Modified Polymer Doped Surfactant Bilayers", *Langmuir* **18**, 6-13, 2002.
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- 31 J. Lal, "Interaction between Polymer and Surfactant Mesophases" *Journal of Neutron Research* **10**, 137-141, 2002.
- 32 H. Kim, A. Rühm, L. B. Lurio, J. K. Basu, J. Lal, S. G. J. Mochrie, and S. K. Sinha, "X-ray photon correlation spectroscopy on polymer films with molecular weight dependence", *Physica B: Condensed Matter* **336**, 211-215, 2003.
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- 34 L. B. Lurio, H.-J. Kim, A. Ruehm, J. Basu, J. Lal, S. K. Sinha, S. G. J. Mochrie, "Surface Tension and Surface Roughness of Supported Polystyrene Film", *Macromolecules* **36**(15), 5704-5709, 2003.
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- photon correlation spectroscopy (XPCS)” *Physica B* **356**, 223-228, 2005.
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  - 63 J. Holoubek, J. Baldrian, and J. Lal “Self-assembled structures in block copolymer blends: SAXS, SANS and TEM study”, *Macromolecular Chemistry and Physics* **208**(7), 739-746 2007.
  - 64 Z. Jiang, H. Kim, H. Lee, Y. J. Lee, X. S. Jiao, C. H. Li, L. B. Lurio, X. S. Hu, J. Lal, S. Narayanan, A. Sandy, M. Rafailovich, S. K. Sinha, “Structure and dynamics of thin polymer films using synchrotron X-ray scattering”, *Journal of Applied Crystallography* **40**, S18-S22 (Suppl. 1), 2007.

- 65 J. Gau-Racine, J. Lal, M. Zeghal, and L. Auvray, "PEO-PPO block copolymer vectors do not interact directly with DNA but with lipid membranes", *Journal of Physical Chemistry B* **111**, 9900-9907, 2007.
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- 67 M. Bleuel, M. Fitzsimmons and J. Lal, "Quasi-elastic Measurements using Neutron Spin Flippers", *Neutron Instruments and Methods in physics research section A-accelerators spectrometers detectors and associated equipment*, **592**(1-2), 100-103, 2008.
- 68 M. Bleuel, E. Lang, R. Gahler, and J. Lal, "CIM - Compact Intensity Modulation", *Nuclear Instruments & Methods in physics research section A-accelerators spectrometers detectors and associated equipment*, **592**(3), 400-404, 2008.
- 69 Y. Li, J. Lee, J. Lal, L. An and Q. Huang "Effects of pH on the interactions and conformation of bovine serum albumin: Comparison between chemical force microscopy and small-angle neutron scattering, *Journal of Physical Chemistry B*, **112**(12), 3797-3806, 2008.
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- 73 J. Holoubek, J. Baldrian, F. Lednický and J. Lal "Self-assembled structures in blends of disordered and lamellar block copolymers: SAXS, SANS and TEM study" *Polymer International* **58**(1) 81-87, 2009.
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- 77 R. Georgii, G. Brandl, W. Haussler, A. Tischendorf, C. Pfeiderer, P. Boni, N. Arend, T. Keller and J. Lal "Turn-key MIEZE module for neutron scattering with sub- $\mu$ eV resolution" *Applied Physics Letters* **98**, 073505, 2011.
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- 79 M. Yamada, Y. Iwashita, T. Kanaya, M. Ichikawa, H. Tongu, S. J. Kennedy, H.M. Shimizu, K. Mishima N.L. Yamada, K. Hirota, J.M. Carpenter, J. Lal, K. Andersen, P. Geltenbort, B. Guerard, G. Manzin, M. Hino, M. Kitaguchi, M. Bleuel "The performance of magnetic lens for focusing VCN-SANS" *Nuclear Instruments and Methods in Physics Research Section A* **634** 156-160, 2011.
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- 82 G. Brandl, J. Lal, J. Carpenter, L. Crow, L. Robertson, R. Georgii, P. Böni and M. Bleuel “Tests of Modulated Intensity Small Angle Scattering in time of flight mode,” *Nuclear Instruments and Methods in Physics Research Section A* **667** 1-4, 2012.
- 83 J. Badger, J. Lal, R. Harder, H. Inouye, S. C. Gleber, S. Vogt, I. Robinson and L. Makowski “Three-dimensional Imaging of Crystalline Inclusions Embedded in Intact Maize Stalks” *Nature Scientific Reports* **3**, 2843, 2013.
- 84 Owoseni O, Zhang Y, He J, Li X, Lal J, Raghavan S, Bose A, John V. Nanostructured amphiphile mesophases as buoyant gel dispersants (submitted 2016).
- 85 C. A. Chavez, P. D. Koenig, J. Choi, J. Lal, W. T. Heller, J. C. Neufeind and E. E. Nesterov “Supramolecular organization of amphiphilic polythiophene block copolymers” (in preparation).
- 86 J. Lal, M. Maccarini, P. Fouquet, N. T. Ho, C. Ho, and L. Makowski “Modulation of Hemoglobin Dynamics by an Allosteric Effector”, *Protein Science*, 26(3), 505-514, 2017.
- 87 J. Lal, S. Malkova, M. Mukhopadhyay, S. Narayanan, A. Fluerasu, S. B. Darling, L. B. Lurio and M. Sutton “Dewetting in immiscible bilayer films” (accepted in *Physical Review Materials* March 2017)
- 88 J. Lal, D. Liang, S. Narayanan, S. B. Darling, L. B. Lurio and M. Sutton “Spinodal dewetting in thin bilayer films” (in preparation).

#### Other Publications

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- 2 R. Bansil, J. Lal, in *Extended Abstracts: Fractal Aspects of Materials: Disordered Systems*, edited by D. A. Weitz, L. M. Sanders, and B. B. Mandelbrot, Materials Research Society: Pittsburgh, 1988, **EA-17**, p. 255.
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- 7 J. Lal and L. Auvray, “The structural changes induced by anchored polymers on droplet and bicontinuous microemulsions”, 1996 MRS Fall Meeting Symposium EE Proceedings Statistical Mechanics in Physics and Biology, **463**, p. 87-96, edited by D. Wirtz, T. C. Halsey, and J. van Zanten.
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- 18 L. B. Lurio, X. Hu, S. Narayanan, X. Jiao and J. Lal, "Dynamics of buried polymer-polymer interfaces in thin films", *Mat. Soc. Symp. Proc.* **790**, P7.43.1, 2004.
- 19 G. H. Wu, J. Majewski, C. Ege, K. Kjaer, M. Weygand, J. Lal, K. Y. C. Lee, "Interaction of poloxamer with model lipid membranes", *Biophysical Journal* **86**(1), 378A-378A, Part 2 Suppl. S, 2004.
- 20 E. P. Gilbert, D. Sutton, A. Nelson, N. Terrill, C. Martin, J. Lal and E. Lang, "Phase Separation in the Organic Solid State: The Influence of Quenching Protocol in Unstable n0Alkane Blends", *Proceedings of the 16th International Conference on the Chemistry of the Organic Solid State*, The University of New South Wales, Sydney, Australia, 13-18 July 2003, *Molecular Crystals and Liquid Crystals* **440**, 93, 2005.
- 21 I. F. Hakem and J. Lal, "Competition between ion-dipole and hydrogen bonding interactions in a model polymer system", *Neutron News*, 2004.
- 22 E. Lang and J. Lal, "Upgrades to SASI at IPNS", 17<sup>th</sup> Meeting of the International Collaboration on Advanced Neutron Sources, April 25-29, 2005 Santa Fe, New Mexico, *Proceedings of ICANS-XVII*, vol. III, p 799.
- 23 M. Bleuel, M. Bröll, E. Lang, K. Littrell, R. Gähler and J. Lal , "First tests of RF-flippers for a neutron resonance spin echo (NRSE) instrument on a pulsed source", 17<sup>th</sup> Meeting of the International Collaboration on Advanced Neutron Sources, April 25-29, 2005 Santa Fe, New Mexico, *Proceedings of ICANS-XVII* , vol. III, p 791.
- 24 J. Holoubek, J. Baldrian and J. Lal, "Self-assembled structures in block copolymer blends A-block-B/A-block-C", *Proceedings of Nano05, "Nanostructured Materials for Functional, Structural and Bio-applications"*, Nov. 8-10, 2005, Brno UT, Prague.
- 25 H. Kim, Z. Jiang, H. Lee, Y. J. Lee, X. Jiao, C. Li, L. B. Lurio, X. Hu, J. Lal, M. Rafailovich, and S. K. Sinha, "Synchrotron X-Ray Scattering Studies of the Surface Structure and Dynamics of Liquids and Liquid Films", *Symposium N Proceedings*, Boston MRS Fall meeting 2005.

- 26 X. Hu, J. Lal, Z. Jiang, S. K. Sinha, S. Narayanan, A. Sandy, X. Jiao, L. B. Lurio, "Observation of a Low-Viscosity Interface Between Immiscible Polymer Layers", YITP Workshop on Soft Matter Physics, Japan, BUSSEI KENKYUU, 87-1, 2006.
- 27 K. Littrell, S.G.E. te Velthuis, J. M. Carpenter, P. Thiyagarajan, J. Lal, P. Brod, R. Goyette, E. Lang, D. Wozniak, "Characterization of the performance of the high-flux solid methane moderator at IPNS." 16th Meeting of the International Collaboration on Advanced Neutron Sources, Nuess, Germany, May 12-16, 2003.
- 28 L. Makowski, J. Bardhan, R. Fischetti, J. Lal, S. Mandava, D. Rodi, S. Park "Slow Correlated Movement of Structural Elements in Hemoglobin and Myoglobin, Biophysical Journal **96**(3), p. 554a-554a".
- 29 M. Yamada, Y. Iwashita, T. Kanaya, M. Ichikawa, H. Tongu, S. J. Kennedy, H. M. Shimizu, K. Mishima, N. L. Yamada, K. Hirota, J. M. Carpenter, J. Lal, K. Andersen, P. Geltenbort, B. Guerard, G. Manzin, M. Hino, M. Kitaguchi, M. Bleuel, and NOP collaboration, "The performance of magnetic lens for focusing VCN-SANS" Proceeding of NOP(NIMA)2010 and JPS65th, 2010
- 30 M. Yamada, Y. Iwashita, M. Ichikawa, H. Tongu, T. Kanaya, S. J. Kennedy, N. L. Yamada, H. M. Shimizu, K. Mishima, M. Hino, M. Kitaguchi, K. Hirota, P. Geltenbort, B. Guerard, G. Manzin, K. Andersen, J. Lal, J. M. Carpenter and M. Bleuel "Novel Method of VERY COLD NEUTRON BEAM Focusing with Rotating Magnetic Sextupole Lens – "SANS" ICANS-XVX proceedings 2010.
- 31 J. Lal, R. Harder, L. Makowski, "X-ray coherent diffraction imaging of cellulose fibrils in situ", 33rd Annual International IEEE EMBS Conference, August 30 - September 3, 2011, Boston Marriott Copley Place, Boston, MA, USA, pages 528-530, 2011.
- 32 J. Lang, D. Keavney, V. Rose, R. Harder, Y. Wang, J. Tischler, W. Liu, J. Wang, T. Sun, S. Heald, A. Macrander, L. Assoufid and J. Lal "Impact of X-ray Synchrotron Studies on Nanoelectronics" abstract (<https://www.nist.gov/pml/engineering-physics-division/2013-fcmn-presentations>)

### Invited Talks

- Invited seminar on "*Spinodal Decomposition in Gels*" at Institut Max Von Laue - Paul Langevin, ILL, Grenoble, France, 11 Dec. 1991.
- Invited talk on "*Kinetics of Polymer Solutions and Gels*", workshop on disordered solids, polymers and glasses organized by S. N. Bose Centre at the Saha Institute of Nuclear Physics in Calcutta, India, 28 Dec. - 7 Jan 1992.
- Invited seminar on "*Phase separation in gels*", Lab. d'Ultrasons et de Dynamique des Fluides Complexes, Strasbourg, France, 22 March 1993.
- Invited talk on "*Deformation of microemulsion droplets induced by polymer*", reunion of G.D.R. "Systèmes colloïdaux mixtes", conference, Morteau (France). 17-21 Jan. 1994.
- Invited seminar on "*Polymer induced deformation of microemulsion droplets*" at Universite P et M Curie (Paris VI) at the laboratory Structure et Reactivite des Systemes Interfaciaux. 11<sup>th</sup> Feb. 1994.
- Invited talk on "*Perturbation of microemulsion droplets by Confinement and Adsorption of polymer*", Fall Meeting of the Materials Research Society, Boston, MA, Dec. 1994.
- Invited talk on "*Polymer -Surfactant Interactions*", Los Alamos National Laboratory, Los Alamos, New Mexico, USA, 10 July 1995.
- Invited seminar on "*Structure and Dynamics of Polymer-Surfactant Systems*", S.P.E.C Orme des Merisiers, Saclay, France 15 Nov. 1995.
- Invited seminar on "*Polymer confined in Vycor*", Université Joseph Fourier de Grenoble, 18 Jan. 1996.
- Invited seminar on "*Polymer confined in Vycor*", Centre de Recherche Paul Pascal, Pessac, Bordeaux, 29



Jan. 1996.

- Invited talk on “*Polymer -Surfactant Interactions*”, Max Planck-Institut for Colloids and Interfaces, Teltow, Germany, 25 April 1997.
- Invited talk at Rhodia, NJ, USA- “*Structure of Confined Polymer Chains*”, 1 June 1998.
- Invited talk on “*Small-Angle Scattering from confined polymers*”, Physics Dept., Indiana University, Bloomington, IN, 1 Oct. 1999.
- Invited talk on “*Confined Polymers*” at the colloquium at the Department of Chemical Engineering and Applied Science, at Princeton University, New Jersey, 3 May, 2000.
- Invited to attend the Princeton/RHODIA Symposium on Block Copolymers in Solution, June 22-23, 2000.
- Invited to attend the NSF Workshop on “Force Transduction in Biology”, where the attendees prepared a report to the National Science Foundation (NSF) identifying research and education opportunities for the future, July 24-26, 2000.
- Invited talk on “*Examples of Soft-systems probed by the technique of Neutron Spin Echo*” at the workshop on chemical Spectroscopy, protein folding dynamics and polymer dynamics held at Argonne National Laboratory, Oct. 10-11, 2000.
- Invited talk on “*Interaction of polymer with Clays*” at the 58<sup>th</sup> Annual Pittsburgh Diffraction Conference, Pittsburgh, PA, Oct. 26-28, 2000.
- Invited talk on “*Structure of Polymer Chains in Confined Geometry*”, International Congress on “Scattering Studies of Mesoscopic Scale Structure and Dynamics in Soft Matter”. Messina, Italy, November 22-25, 2000.
- Invited to attend the Experimental Facilities Advisory Committee for SNS at Oak Ridge National Laboratory, TN, March 26-28, 2001.
- Invited talk on “*Using Coherent SAXS to Study Structure and Dynamics in Soft Matter*”, ACA Annual Meeting, Los Angeles, CA, July 21-26 2001.
- Invited talk on “*Polymer chains under constraint*”, LENS workshop organized by Indiana University Cyclotron Facility (IUCF), Bloomington, IN, Nov. 16 2001.
- Invited talk on “*Polymer chains under constraint*” at Horizons in Complex Systems, Messina, Italy, Dec. 5-8 2001.
- Invited Talk on “*Interaction between polymer and surfactant mesophases*” at the Workshop on Slow Dynamics of Soft-Matter and Biological Macromolecules studied by Neutron Scattering, High Energy Accelerator Research Organization (KEK), Japan, 7-8 March 2002.
- Invited Talk on “*Applications of SANS and MIEZE and some thoughts on the design of the spectrometer*”, IPNS workshop on Neutron Spin Echo Techniques at Pulsed Sources, July 15-16 2002.
- Invited to write proposal on SANS+MIEZE to NSF at Pulsed Polarized Neutron Workshop Gaithersburg, MD, February 10-12, 2003.
- Invited talk on “*Preliminary results of interface dynamics of polymer bilayers*” at APS, ANL 28<sup>th</sup> March 2003.
- Invited talk on “*Modulated Intensity Small Angle Scattering –MISANS and Complementarity of MIEZE-SANS and X-Ray correlation Spectroscopy (XPCS)*” at PNCMI 2004, Washington DC, June 1-4 2004.
- Invited talk on “*Dynamics of Buried Polymer Interfaces*” at NSLS, Brookhaven National Laboratory, August 10, 2004.
- Invited to attend “Workshop on Mesoscopic and Nanoscopic Science Using X-ray Techniques-A study on future scientific directions for the Advanced Photon Source”, The Abbey, Fontana, WI, Aug. 29- Sept.1,

2004.

- Invited talk “*Dynamics of Buried Polymer Interfaces*” Sydney, ANSTO-Bragg Institute, Australia, 29<sup>th</sup> Oct. 2004.
- Invited talk “*Dynamics of Buried Polymer Interfaces*” at Conference on Material and Complexity 2, Kioloa, Australia, Nov. 2-5, 2004.
- Invited talk “*Dynamics of Buried Polymer Interfaces*” at “5<sup>th</sup> International Discussion Meeting on Relaxations in Complex Systems, Lille, France, July 7<sup>th</sup>-13<sup>th</sup> 2005.
- Invited talk “*Structure and Dynamics in Complex Systems*” IPNS, ANL, Very Cold Neutron workshop, Argonne, IL, August 22-24, 2005.
- Invited talk “*Structure and Dynamics in Complex Systems - Prospects with VCN*” at workshop on “Present Status and Future of Very Cold Neutron Applications”, Paul-Scherrer Institute, Switzerland, 13-14 February 2006.
- Special talk “*Interaction between polymers and surfactant mesophases*”, Prague Meeting on Macromolecules “Structure and Dynamics of Self-Organized Macromolecular Systems”, Prague, July 9-13, 2006.
- Invited talk “*Dynamics at buried polymer interfaces*”, CEPSE seminar at Department of Chemical Engineering, Center of Excellence for Polymer Science and Engineering, Illinois Institute of Technology, Chicago, IL, Sept. 22 2006,
- Invited talk “*Dynamics at buried polymer interfaces*” for APS's Sector Beamline 8-ID Review Panel on September 27, 2006.
- Invited to present the science case for MISANS (Modulated Intensity Small Angle Neutron Scattering) LOI at SNS, Oak Ridge National Laboratory before the Neutron Scattering Science Advisory Committee (NSSAC), 30th Nov. 2006.
- Invited to be member of the thesis jury of Jocelyne Gau “Structure et fonctionnement de vecteurs polymères pour la thérapie génique”, l'Université d'Evry, France, 7<sup>th</sup> Dec. 2006.
- Invited talk “*Dynamics at Surfaces and Interfaces in Polymer Bilayer Films*” at the workshop on Kinetics and Dynamics in Soft Condensed Matter at the Users Week 2007 at Argonne National Laboratory, 9<sup>th</sup> May 2007.
- Invited talk “*Dynamics at Surfaces and Interfaces in Polymer Bilayer Films*” Surface and Interface Scattering Special Interest Group, APS, ANL, 15<sup>th</sup> May 2007.
- Invited talk “*Structure of Polymer Chains under Confinement*” at the International Symposium on Neutron Scattering, Solid State Physics Division. Bhabha Atomic Research Centre. Mumbai, India, 15-18 Jan. 2008.
- Invited to 1st J-PARC International Symposium IPS08 International Symposium on Pulsed Neutron and Muon Sciences, Mito, Japan, March 5-7, 2008.
- Invited talk “*Capillary Wave Dynamics in thin Bilayer Polymer Films*” at Polymer division seminar at NIST Gaithersburg Maryland, July 17<sup>th</sup> 2008.
- Invited lecture “*Neutron Spin Echo*” Physics Department, Northern Illinois University, Oct. 31<sup>st</sup> 2008.
- Invited talk “*Innovations in Small Angle Neutron Scattering*” ANSTO Sydney 15th Dec. 2008.
- Invited talk “*Scientific Opportunities with a 2<sup>nd</sup> SANS Machine at OPAL*” Scoping workshop 2009, 27-28 August 2009, at ANSTO, Sydney, Australia.
- Invited talk “*Neutron Spin echo studies of Hemoglobin and Myoglobin Multiscale Internal Dynamics*” Neutron Scattering Contractors Meeting, July 18-21, 2010, Warrenton, VA.
- Physics Colloquium, “*Slow Dynamics in Complex Systems Measured by High Energy Resolution Neutron*

*Scattering Techniques*” Northern Illinois University, 4<sup>th</sup> Nov 2011.

- Invited talk ”Dynamics of Polymer Thin Films” Department of Physical Chemistry, EHU-UPV, 23<sup>rd</sup> Feb. 2012, Bilbao, Spain.
- Invited Lecture, “Wide angle X-ray scattering (WAXS) study of proteins in solution” in New X-ray Sources for Life Science Applications, XI Research Course in X-ray Science (21-23 March) 2012, at DESY Hamburg, Germany.
- Invited Lecture, “The behavior of polymer chains in confined geometries” 30<sup>th</sup> May 2012, Physics Department, Technical University of Munich, Germany.
- Invited Lecture “Surface dynamics of polymer thin films” 27<sup>th</sup> June, 2012, Physics Department, Technical University of Munich, Germany.
- Invited talk, “Exploring soft matter and biology” user meeting for the proposed NRSE/MIEZE spectrometer at the European Spallation Source (ESS), at FIAP, July-5-6<sup>th</sup>, 2012 Paris, France.
- Invited seminar, “Dynamic nature of Proteins probed by X-ray and Neutron scattering” 11<sup>th</sup> July 2012, FRM-II/Technical University of Munich, Germany.
- Invited seminar, “*Link between structure, dynamics and function of proteins in solution*” 12<sup>th</sup> Sept. 2014, Center for Biochemical and Biophysical Studies, Northern Illinois University.
- Invited seminar, “Polymer chains in confined geometries” Feb. 2, 2015, LaCNS, LSU, LA. Seminar series 2015.
- Invited Lectures, “Neutron Spectroscopies: Quasi-Elastic Neutron Scattering and “Neutron Spin Echo Spectroscopy” Neutron Scattering Workshop, Tulane University, June 1, 2015 for the Louisiana Consortium for Neutron Scattering (LaCNS).

### Talks and Posters

- Poster at Fall Meeting of the Materials Research Society, Boston 1988.
- Talk at Fall Meeting of the Materials Research Society Meeting, Boston, 1989.
- 1989 APS March Meeting, St. Louis (Talk); 1990 March Meeting, Anaheim (Poster); 1991 March Meeting, Cincinnati (Talk).
- Poster at NATO Advanced Research Workshop on Propagation of Correlations in Confined Geometries, Cargèse, Corse, France July 1990.
- Poster on “*Structural Study of Water Confined in Porous Vycor Glass by Neutron Scattering*” at Gordon Research Conference on Aqueous Solutions and Water, 3-7 Aug. 1992.
- Poster on “*Revealing of heterogeneities by free linear chains in a network*”, Les Houches, France “Soft Order in Physical Systems” 16-26 Feb. 1993.
- Poster on “*Study of formation of soap film*”, Gordon Research Conference on “Physics and Chemistry of Liquids”, Holderness School, Plymouth, NH, 8-13 Aug. 1993.
- Poster on “*Formation of soap film*”, Liquid Matter Conference, EPS, Florence, Italy, 18-22 Sept. 1993.
- Talk on “*Perturbation of microemulsion droplets induced by polymer*”, at 10<sup>th</sup> International Conference on Surfactant Solutions, Caracas, Venezuela, 26 June - 1 July 1994.
- Oral communication on “*Microemulsions*” at the workshop on Slow Dynamical Processes in Heterogeneous Soft Matters, Les Houches, France, 31 Jan. - 10 Feb. 1995.
- Seminar on “*Polymer -Surfactant Interactions*”, NIST, Gaithersburg, MD, 13 July 1995.

- Poster on “*Polymer Confined in Porous Media*”, second French-Israeli Conference on Complex Fluids, St. Malo, France, 6-11 Oct. 1996.
- Talks on “*The structural changes induced by anchored polymers on droplet and bicontinuous microemulsion*” and “*Polymer chains confined in vycor*”, Fall Meeting of the Materials Research Society, Boston, MA, USA, Dec. 1996.
- Presented and participated in the discussion on “Use of coherence of X-rays”, at ‘Ecole Francaise de Reflectivite 1997’ at Luminy, France, 10 June 1997.
- Talk on “*Correlations in Colloidal Silica Studied by X-ray Photon Correlation Spectroscopy*” Symposium L, Fall Meeting of the Materials Research Society, Boston, MA, USA, 1-5 Dec. 1997.
- Talk on “*Dynamics of colloidal systems studied by X-ray Photon Correlation Spectroscopy*”, in topic “Soft Matter” of Statphys 20, Paris, 20-25 July 1998.
- IPNS lunch talk “*Dynamics of colloidal systems studied by new technique of X-ray Photon Correlation Spectroscopy*” at Argonne, 1 Oct. 1998.
- Talk on the “*Dynamics of Colloids*” at Symposium HH at the MRS Spring Meeting in San Francisco, CA, 5-9 April 1999.
- Talk on “*Interaction of polymer with clays*” at SAS XI conference in Brookhaven National Laboratory, Upton, NY, 17-20 May 1999.
- Poster on “*Interaction of Polymer with discotic clay particles*” 14<sup>th</sup> ISCOSS conference, Cambridge, UK, 26-30 July 1999.
- Talk on “*Interaction of clay and polymers*”, Symposium CC, Fall Meeting of the Materials Research Society, Boston, MA, 29 Nov. – 3 Dec. 1999.
- Poster on “*Confinement of polyelectrolyte chains in porous glass*”, Polyelectrolyte 2000, Les Diablerets, Switzerland.
- Poster on “*Dynamics of hydrophobically modified polymer doped surfactant bilayers: a neutron spin echo study*” at the International Workshop on Neutron Spin Echo Spectroscopy, Hahn- Meitner Institut, Berlin, Germany, 16-17<sup>th</sup> Oct. 2000.
- Poster on “*Structure and Correlations of Polyelectrolyte Chains Confined in Nanoporous Glass*” at workshop on “The Interface Between Biology and Materials Science”, LRSM, University of Pennsylvania, Philadelphia, PA, November 2-4, 2000.
- Talk on “*Structure of polyelectrolyte chains confined in porous vycor glass*” in Dynamics in Small Confining Systems VI, Nov. 27- Dec 1, Boston, MA, Fall MRS 2000.
- Posters “*Solution properties of PEO*” and “*Confinement of neutral and charged polymer chains in nanoporous glass*”, Center of Nonlinear Studies, 21<sup>st</sup> Annual International Conference “Principles of Soft Matter”, Santa Fe, NM, May 21-25, 2001.
- Poster “*Confinement of neutral and charged polymer chains in nanoporous Glass*”, Gordon Research Conferences “Condensed Matter Physics”, Connecticut College, June 17-22, 2001.
- Poster “*Evidence of solvent dependant complexation in non-ionic polymer/salt systems*” at ICNS 2001, Munich, Germany.
- Talk on “*SANS+MIEZE Instrumentation*” at Experimental Facilities Advisory Committee (EFAC) meeting for SNS at Oak Ridge National Laboratory, TN, 3-4 April, 2002.
- Poster presentation and invited talk (by co-workers) at workshop on Frontiers of Synchrotron Research on Soft Matter and Biomaterials, Tarrytown, NY, April 25-26, 2002.
- Talk on “*Confined Polymers*” at Aspen Center for Physics 2002 summer workshop on “Coulomb Effects in

Soft Condensed Matter and Biomolecular Science”, 27 May-9 June 2002.

- Contributed Talk on ”*Interaction between Hydrophobically Modified Polymer and Surfactant Mesophases*” at ACNS conference, Knoxville, TN, June 25<sup>th</sup> 2002.
- Talk at XII International Conference on SANS, Venice, Italy, August 25-29, 2002.
- Talk at “*Polymers in Confined Geometries*”, Mainz, Germany, 22-25 Sept. 2002.
- Poster on “*Polyelectrolyte-like behavior of poly(ethylene-oxide) solutions with added monovalent salt*” and invited talk by two co-authors at 2<sup>nd</sup> Rhodia International Conference, Physical Chemistry of Polymeric Systems, University of Bristol, UK, Sept. 17-20, 2002.
- Poster on “*Dynamics at a Buried Polymer Interface*” at Condensed Matter Physics Gordon Conference, New London, CT, June 22-27, 2003.
- Poster on “*Dynamics at a Buried Polymer Interface*” at 2003 Enrico Fermi School of Physics at Varenna sul Lago di Como, Italy, 1-11 July 2003.
- Poster on “*Fluctuations of Bare Membranes and their Modification on Incorporation of Polymers having equally Spaced Anchors*”, Third European Conference on Neutron Scattering, Montpellier, France, 3-6 September 2003.
- Invited poster on “*Competition between ion-dipole interaction and hydrogen bonding*”, NSF Chem.Bio workshop, Florida State University, Tallahassee, FL, Sept. 23–25, 2003.
- Poster on “*Dynamics of Charged membranes*” at MRS, Fall meeting in Boston, MA, Dec. 2-6 2003.
- Poster on “*Competition between ion-dipole interaction and hydrogen bonding*”, Gordon Conference on Colloidal, Macromolecular and Polyelectrolyte Solutions, Ventura, CA, Feb 1-6, 2004.
- Talk on “*Complexation of POE with monovalent ions*”, APS March meeting, March 22-26, Montreal, Canada.
- Talk (invited to write paper), “*Dynamics at a Buried Polymer Interface*”, 40th IUPAC Symposium on Macromolecules, Paris, France, July 4-9, 2004.
- Poster on “*Dynamics at a Buried Polymer Interface*” at APS March Meeting, Los Angeles, 2005.
- Poster on “*Dynamics at a Buried Polymer Interface*” at the Users' Meeting for the Advanced Photon Source and the Center for Nanoscale Materials, Argonne, IL, 2005.
- Talk on “*Dynamics at a Buried Polymer Interface*” at the 5th International symposium on Molecular Mobility and Order in Polymer Systems, Saint-Petersburg, Russia, June 20-24, 2005.
- Talk on ”*Unusual behavior of poly(ethylene-oxide) in aqueous mixtures*” at the European Polymer Congress 2005, Moscow, Russia, June 27-July 1, 2005.
- Talk on “*Structure and Dynamics of Membranes by Neutron Scattering Techniques*”, Benasque 2005 workshop “Biological Membranes; Current Challenges”, Benasque, Spain, July 31-August 19, 2005.
- Poster “*Study of non-ionic surfactant lamellar phases on addition of charge*”, Neutron Spin Echo Workshop 2005, Institut Laue Langevin, Grenoble, France (NSE school: 7 Sept 2005. Workshop: 8-10th Sept 2005).
- Poster “*Dynamics at buried polymer interfaces*” at workshop “Focusing Stress in Soft Interfaces”, MRSEC University of Chicago, Nov. 17-19, 2005.
- Posters “*Self assembled structure of copolymer blends*” and “*Dewetting of polymer films*” at 2006 Users' Meeting for the Advanced Photon Source, Argonne National Laboratory, May 1-5, 2006.
- Posters “*Self assembled structure of copolymer blends*”, “*Small Angle Neutron Scattering (SANS) study of*



*nitrogen doped ultracrystalline diamond film*” and “*SANSPOL experiments at a pulsed source*” at ACNS 2006, St. Charles, IL, June 18-22, 2006.

- Poster “*Observation of a Low-viscosity Interface Between Immiscible Polymer Layers*”, workshop “Structures and Dynamics in Soft Matter-Beyond Self-Organization and Hierarchical Structures”, Yukawa Institute for Theoretical Physics, Kyoto University, Japan July 14-16 2006.
- Poster “*SANSPOL at a Pulsed Source*” at PNCMI 2006, Berlin, Germany, Sept. 25-28 2006.
- Poster “*Observation of a Low-viscosity Interface Between Immiscible Polymer Layers*”, International Symposium “Fundamental and Applied Macromolecular Science: Toward Next Generation Materials”, LEA 2007 on Macromolecules in Finely Divided Media, Strasbourg, France, 29-31 January 2007.
- Talk on “*Dynamics from Buried Polymer-Polymer Interfaces in Thin Films*”, March Meeting of the American Physical Society, Denver, CO, March 5-9, 2007.
- Poster “*SANSPOL at a Pulsed Source*” at the Users Week 2007 at Argonne National Laboratory, 8<sup>th</sup> May 2007.
- Talk on “*Dynamics at surfaces and interfaces in polymer bilayer films*”, International Workshop on “Scattering on Liquid-Liquid Interfaces”, Conference Center Klinten, Rodvig, Denmark, June 22-24, 2007.
- Poster on “*PEO-PPO Block Copolymer Vectors Do Not Interact Directly with DNA but with Lipid Membranes*”, Biosensing With Channels. Ile de Berder, France, 25-31 August 2007.
- Poster on “*Kinetics of Dewetting at the Polymer-Polymer Interface in Thin Bilayer Films*” at 10<sup>th</sup> International Conference on Surface X-ray and Neutron Scattering, SXNS-10 - 2-5 July 2008, Synchrotron SOLEIL – Gif-sur-Yvette, Paris, France.
- Talk on “*Internal Dynamics in Proteins studied by Neutrons and X-rays*” Dynamics of Soft Matter, December 4 - 6, 2008, Boston, Massachusetts, USA.
- Presented poster on “*Internal Dynamics in Proteins Studied by Neutrons and X-rays*” at International Conference on Neutron Scattering 2009, May 3 - 7, 2009, Knoxville, Tennessee.
- Invited to present a poster “*Effect of Molecular Crowding on Internal Dynamics of Proteins*” at WE Heraeus Seminar. Biosensing with channels: faster, smaller, smarter. Jacobs University Bremen. 28 June – 4 July 2009, Bremen, Germany.
- Talk on “*Neutron Spin Echo studies of Hemoglobin and Myoglobin: Multiple Scale Internal Dynamics*” JCNS Workshop 2009, “Trends and Perspectives in Neutron Scattering on Soft Matter” 5-8 October 2009, Tutzing, Germany.
- Talk on “*Neutron Spin Echo studies of Hemoglobin and Myoglobin: Multiple Scale Internal Dynamics*” at the Workshop on Neutron Spin Echo Spectroscopy, November 4 - 5, 2009, Oak Ridge National Laboratory, Oak Ridge, TN, USA
- Talk on “*Neutron Spin Echo Studies of Dynamics in Hemoglobin and Myoglobin*” Biophysical Society 54<sup>th</sup> Annual Meeting, San Francisco, California, February 20-24, 2010.
- Talk on “*Neutron Spin Echo Studies of Protein Dynamics*” APS March Meeting March 15 - 19, Portland, Oregon, 2010.
- Poster on “*MISANS at the CG-1 Beam Line of HFIR*” at the American Conference on Neutron Scattering Ottawa, ON, Canada June 26 - 30, 2010.
- Talk on “X-ray Photon correlation spectroscopy studies of dewetting polymer films” 8<sup>th</sup> February 2011, at Liquid/Soft-Surface Interest Group Meeting, Advanced Photon Source, ANL.
- Poster on “*Binding of the Allosteric Effector Inositol Hexaphosphate (IHP) Modulates the Dynamics of Carbonmonoxyhemoglobin on Multiple Length Scales*” 55<sup>th</sup> Annual Biophysics meeting, Baltimore,

Maryland, March 5<sup>th</sup>-9<sup>th</sup>, 2011.

- Talk on “Binding of Inositol Hexaphosphate (IHP) Switches Carbonmonoxyhemoglobin to an Incommensurate Structure Exhibiting Increased Motion of  $\alpha\beta$ -dimers” APS March Meeting March 21 - 25, 2011 in Dallas, Texas.
- Poster on “*In situ Coherent Diffraction Imaging of Cellulose Crystals*” at X-Ray Science Gordon-Kenan Research Seminar, August 6-7, 2011, Colby College Waterville, ME.
- Poster on “*In situ Coherent Diffraction Imaging of Cellulose Crystals*” “X-Ray Science” Gordon Research Conference, August 7-12, 2011, Colby College, Waterville, ME.
- Presentation of poster on “Impact of X-ray Synchrotron Studies on Nanoelectronics.” At 2013 FCMN (Frontiers of Characterization and Metrology for Nanoelectronics) NIST, Gaithersburg, MD, campus on March 25-28, 2013.
- Poster on “Three-dimensional Imaging of Crystalline Inclusions Embedded in Intact Maize Stalks” at Gordon Research conference on “Ultrafast Phenomena in Cooperative Systems” February 2-7, 2014, Ventura Beach Marriott, Ventura, CA.
- Poster on “Photon correlation spectroscopy from dewetting polymer films.” At the XIII. DESY Research Course 2014 on “Correlation Functions in the Time Domain: Trends in *Coherent* X-ray Scattering” at DESY, 19-21<sup>st</sup> March, Hamburg, Germany.
- Poster on “Photon correlation spectroscopy from dewetting polymer films.” The International Workshop on Phase Retrieval and Coherent Scattering” at Evanston, IL 2-5<sup>th</sup> Sept, 2014.
- Talk on “Modulation of Hemoglobin Dynamics by an Allosteric Effector” JCNS Workshop 2015, Neutron Scattering on Nano-Structured Soft Matter: Synthetic- and Bio-Materials, 5 - 8 October 2015, Tutzing, Germany.
- Talk on “Supramolecular Organization of Stimuli-Responsive Amphiphilic Polythiophene Block Copolymers” Biannual SHUG User Meeting held at Oak Ridge National Laboratory (ORNL), 26<sup>th</sup> to 27<sup>th</sup> October 2015.

### Organization of Schools, Talks and Workshops

- Helped coordinate and design the complementary experiments proposed in “National School on Neutron and X-ray Scattering” held at Argonne National Laboratory, August 16-27, 1999 and again in years 2000, 2001, and 2002.
- Organized IPNS lunch talks Oct. 1998 to Dec. 1999, Aug.-Dec. 2006.
- Organized Workshop on “Neutron Spin Echo Techniques at Pulsed Sources” held at Argonne National Laboratory, Intense Pulsed Neutron Source, July 15-16, 2002.
- Served on the scientific program committee for the JINS workshop “Neutron Scattering and Spectroscopy for Chemistry and the Chemistry-Biology Interface” (NSF ChemBio workshop), served also as chair of science session on confinement. Florida State University, Tallahassee, FL, September 23–25, 2003.
- Served on the scientific committee of the American Conference on Neutron Scattering (ACNS). Organized and chaired session in Soft Matter ACNS 2004 held at University of Maryland in College Park, MD, June 6-10, 2004.
- Served as member of the International Advisory Board for the 45th Prague Meeting on Macromolecules “Structure and Dynamics of Self-Organized Macromolecular Systems”, Prague, July 9-13, 2006.
- Organized a breakout session for the MISANS instrument development team at International Conference on Neutron Scattering 2009, May 3 - 7, 2009, Knoxville, Tennessee.

- Organized the researchers across Argonne Divisions in 2011 to form a Biomaterials interest group and maintain Argonne Biomaterials website.
- Organized workshop on “Self-Assembled Bio-Inspired Materials for Energy” Argonne National Laboratory, Building 402, February 4 and 5, 2011.
- Organized session “User Facilities for Industry 101” at the Advanced Photon Source User Meeting, May 9<sup>th</sup> 2013.

### **Participation in Judging Work of Others**

- Reviewing proposals for NIST Center for Neutron Research to present.
- Served on the IPNS Argonne National Laboratory, Program Advisory Committee, 2000 to 2008
- Reviewed proposals for Advanced Photon Source (APS), Argonne, and asked to serve on Proposal Review Panel for Small Angle X-ray Scattering for APS in Oct. 2002-2004.
- Asked to serve on the scientific program committee for the JINS workshop “Neutron Scattering and Spectroscopy for Chemistry and the Chemistry-Biology Interface” (NSF ChemBio workshop), Florida State University, Tallahassee, FL, September 23–25, 2003. Served also as chair of science session on confinement.
- Reviewed manuscripts for Journal de Physique, Macromolecules, Materials Research Society, the International Conference on Neutron Scattering (ICNS) 2001, European Journal of Physics E, Journal of Rheology, Journal of Chemical Physics, Journal of Physical Chemistry, Journal of Non-Crystalline Solids, Journal of Applied Crystallography, Langmuir, and Europhysics Letters.
- Chaired the session on “Polymer Solutions” on 13<sup>th</sup> Sept. 2001 at the International Conference on Neutron Scattering (ICNS) in Munich, Germany.
- Chaired session at the “International Workshop on Nanocomposites: Materials, Neutrons and Data Interpretation”, March 28-30, 2002 at Argonne National Laboratory.
- Served as part of Argonne's Advanced Photon Source Sector Review Panel, UNI-CAT, Sector 33, March 16, 2004.
- Judged awardee's for the poster session at the American Conference on Neutron Scattering (ACNS) in Washington, June 6-10, 2004.
- Organized and chaired session in Soft Matter at the American Conference on Neutron Scattering (ACNS) held at University of Maryland, College Park, MD, June 6-10, 2004.
- International advisory board of 2006 Prague Meeting on Macromolecules, 45<sup>th</sup> Microsymposium “Structure and Dynamics of Self-Organized Macromolecular Systems”.
- Member of the Argonne Scientific User Facilities diversity committee since 2003-2006.
- Invited to serve on the new laboratory-wide postdoctoral committee for 2 years at Argonne National Laboratory, Nov. 2006.
- Invited to be member of the thesis jury of Jocelyne Gau, “Structure et fonctionnement de vecteurs polymères pour la thérapie génique”, l'Université d'Evry, France, Dec. 7 2006.
- Invited to be member of the Scientific User Facilities POC-HP committee of Argonne National Laboratory for 2 years in March 2007.
- Chaired the session on “Soft Interfaces” at 10<sup>th</sup> International Conference on Surface X-ray and Neutron Scattering, SXNS-10 - 2-5 July 2008, Synchrotron SOLEIL – Gif-sur-Yvette, Paris, France.
- Chaired session “Biological Molecules: Structure and Dynamics” at International Conference on Neutron Scattering 2009, May 3 - 7, 2009, Knoxville, Tennessee.

- Reviewed neutron scattering proposals for OPAL, ANSTO, Sydney in 2009, 2010 to present.
- Wrote report for Scoping Workshop on New Guides, Instruments and Sample-Environment Apparatus at OPAL ANSTO, Sydney 27-28 August 2009.
- Invited as Panelist for site visit to NCNR, NIST Center for Neutron Research for the “CHRNS October 2009 Panel”. The review took place at the NCNR site in Gaithersburg, Maryland on 9/14 – 9/16/2009 and help write report for the Committee to review the CHRNS renewal proposal November 12<sup>th</sup> 2009.
- Reviewed Proposal for Division of Materials Sciences and Engineering, Office of Basic Energy Sciences, March 2010.
- Invited as Panelist for site visit to NCNR, NIST Center for Neutron Research for the “CHRNS October 2010 Panel”. The review took place at the NCNR site in Gaithersburg, Maryland on 10/25 – 10/27/2010.
- Asked to serve on the Advanced Light Source, Lawrence Berkeley National Laboratory in Berkeley, California, proposal review committee in Nov. 2011 to present.
- Chaired Session “Surfaces, Interfaces and Polymer Thin films”, American Physical Society March meeting, February 27–March 2 2012; Boston, Massachusetts.
- Chaired Session in New X-ray Sources for Life Science Applications, XI Research Course in X-ray Science (21-23 March) 2012, at DESY Hamburg, Germany.
- Session chair “ Protein Dynamics” 57<sup>th</sup> Annual Meeting of the Biophysical Society, Philadelphia, PA, Feb. 2-6<sup>th</sup>, 2013.
- Organized session “User Facilities for Industry 101” at the Advanced Photon Source user meeting, Argonne National Laboratory, May 9<sup>th</sup> 2013.
- Led and presented the discussion on “Industrial Outreach” at the 3-way meeting of ESRF/APS/SPRING-8/PETRA-III (July 30<sup>th</sup>-August 2 2013) at the Advanced Photon Source ANL.

### **Awards**

- “The Argonne National Laboratory Pacesetter Award” in Oct. 1999 for providing administrative and scientific support for the very first Neutron and X-ray School in US, which gained wide recognition as exemplary by the participants of the school, the invited lecturers and the office of Basic Energy Sciences of the Department of Energy.

### **External Funding**

- SANS with polarized neutrons as a tool for studying nanomagnetism in nanostructured materials funded 2004-236-N0. Strategic Initiative project.
- A Hybrid Instrument-MISANS (Modulated Intensity Small Angle Scattering)- funded for 2005-214-N0 and 2005-214-R1 Strategic Initiative project
- Development of techniques for neutron microscopy using very cold neutrons. LDRD 2007-129-N0
- Adaptation of the MISANS instrument to Very Cold Neutrons. LDRD 2007-179-N0
- Development of Methodology to Study Structure and Dynamics of Biomolecular Systems. LDRD 2008-189-N0, WP # 3019.
- Coherent Diffraction Imaging of Complex Polymeric Networks. LDRD 2009-068-N0.
- Enzyme Processes in Energy Production. LDRD 2011-203-N0

## **Collaborators**

G. Gruebel (DESY); R. Georgii (Tech. Univ. Munich); L. Robertson (ORNL); S. K. Sinha (UC San Diego); R. K. Prud'homme (Princeton); L. Makowski (BIO, ANL); L. Lurio (NIU); M. Monkenbusch (Juelich, Germany); J. A. Kornfield (Caltech); L. Auvray (Paris, France); R. Bansil (Boston University); R. Gahler (Institut Laue Langevin, Grenoble, France); T. Krist (HMI, Berlin); J. M. Carpenter (ANL); C. Konak (Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic); Prof. A. J. Heeger, (2000 Nobel Prize in Chemistry, UCSB, CA); P. Janmey (Univ. of Pennsylvania).

## **Supervision at Work**

- Ed Lang - Scientific Associate at SASI instrument (IPNS), 1998-2008.
- Dennis Wozniak - Scientific Associate at SAND instrument (IPNS), 1998-2008.
- Elliot Gilbert - Post doc on SAD (IPNS), Nov. 1999-Dec. 2000. Now instrument scientist at ANSTO, Australia.
- Ilhem-Faiza Hakem - visiting scholar from University of Tlemcen, Algeria, March – August 2001, again May-Oct. 2002, July 2003-Jan. 2004. Now research faculty at Carnegie-Mellon University at Pittsburg.
- Xuesong Hu - Post doc from June 2002, joins NIST at Gaithersburg, MD in June 2005.
- Markus Bleuel - Post doc, Jan. 2004-2008, Now instrument scientist at NIST.
- Markus Bröll (TU Munich) and Jocelyne Gau (Evry, Paris), students, Jan. –April 2005.
- Sarka Malkova - Post doc, Sept. 2005-August 2006. Was at Nebraska Medical School.
- Dennis Liang - Post doc, Oct. 2006-March 2008. Now in Environmental Science at University of Chicago.
- Sang Soo Kim - Post doc Dec. 2010-June 2011 at MSD, ANL. Now staff scientist at Spring 8 XFEL Japan.

## **International Experimental Facilities Used**

### **Neutron facilities used**

- TOF-SANS, Instrument Scientist, IPNS, ANL.
- SANS, wide-angle SANS, QENS, NSE - Laboratoire Léon Brillouin, Saclay, CEA, France.
- NSE Machine at Juelich, Germany.
- NSE IN11c and SANS -optics experiments at Very Cold Neutron (VCN) beam line, PF2 Institute Laue Langevin, Grenoble France.
- Modulated Intensity Small Angle Neutron scattering experiments (MIEZE/MISANS) on MIRA at Neutron Source Heinz Maier-Leibnitz (FRM II), Technische Universität München, Garching, Germany.
- Prototyped MIEZE (Modulated Intensity Neutron Resonance Spin Echo Experiments with Zero effort) at HFIR, Oak Ridge National Laboratory
- Extended Q-Range Small-Angle Neutron Scattering Diffractometer -EQ-SANS, Neutron Spin Echo Spectrometer-NSE, Backscattering spectrometer-BASIS, Nanoscale-Ordered Materials Diffractometer-Nomad, Spallation Neutron Source, Oak Ridge National Laboratory.
- NSE spectrometer at NIST, Center for Neutron Research (NCNR), Gaithersburg, Maryland.

### **Synchrotron-radiation light sources used**

- XPCS, SAXS, WAXS, GISAXS at Advanced Photon Source (APS), ANL.



- XPCS (Troika Beamline), Liquid surface scattering, SAXS, European Synchrotron Radiation Facility (ESRF), Grenoble, France
- Liquid jet experiments SAXS/WAXS PETRA III, DESY, Hamburg, Germany.